Time Management Tech Exchange Reports

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Administrative Update

- **Time Management tech exchanges**
  - **21 Oct 1997**
  - **11 December 1997**
- **Documents distributed**
  - **Wide Virtual Time (11/97) (update)**
  - **dynamic federate topologies (11/97)**
- **Current items under discussion**
  - **representation and meaning of logical time**
  - **dynamic federate topologies**

Representation and Meaning of Logical Time Stamps

- **Questions**
  - format (one field vs. multiple fields, tie-breaking fields)
  - data type (fixed vs. floating point)
  - units (hours? seconds? microseconds?)
- **Related issues**
  - federation controlled ordering of simultaneous events
  - repeatable executions
- **Current approach**
  - time represented as double precision floating point number
  - receiver orders incoming simultaneous events to ensure repeatability and federation control of event ordering
- **Status**
  - Consensus
    - premature to standardize format and definition of units
    - additional experience using existing services required
- **Recommendation**
  - formation of team to specify and evaluate issue, and oversee experimentation (per AMG issue evaluation procedure)

Dynamic Federate Topologies

- **Questions and Current Approach**
  - topology refers to which federates can send time stamp ordered message to which other federates
  - topology can change during execution
    - dynamic publication/subscription
    - data distribution management
  - RTI implicitly assumes any time managed federate can send a message to any other at any time (conservative approach)
  - potentially some loss in performance
  - exploiting topology information requires some modification to IFSpec
- **Current Status**
  - current approach appears satisfactory (for now)
  - performance benefit to exploit topology information unclear

Summary

- **representation and meaning of time**
  - recommend formation of issue team for further evaluation
- **dynamic federate topology**
  - no action at this time